In the Specification:

Please replace the paragraph at page 5, lines 5-20 of the specification with the following substitute paragraph:

One aspect of the invention is a plant expression cassette that will alter the level and location of glutamine synthetase in plants. This expression cassette comprises a glutamine synthetase gene operably linked to a promoter. In preferred embodiments, the glutamine synthetase gene is from a gymnosperm, the genus *Pinus*, and the species *Pinus sylvestris*. In other preferred embodiments, the expression cassette additionally comprises the cauliflower mosaic virus 35S promoter and the NOS terminator. In other preferred embodiments, the expression cassette comprises a sequence that is at least 70% identical to Genbank Accession No. X69822 (SEQ ID NO: 3), encodes a protein that is at least 70% similar to the protein sequence encoded by Genbank Accession No. X69822 (SEQ ID NO: 4), hybridized to Genbank Accession No. X69822 (SEQ ID NO: 3) at moderate stringency, or is Genbank Accession No. X69822 (SEQ ID NO: 3).

Please replace the paragraph at page 6, lines 33-32 of the specification with the following substitute paragraph:

Another aspect of the invention is a transgenic woody perennial plant with improved nitrogen metabolism which comprises at least one transgene expressing the coding sequence of glutamine synthetase. In preferred embodiments, the glutamine synthetase gene is from a gymnosperm, from *Pinus*

sylvestris, and is Genbank Accession No. X69822 (SEQ ID NO:3). In other preferred embodiments, the transgenic plant is in the family Salicaceae, the genus Populus, is a hybrid *Populus tremula* X *P. alba*, and is clone INRA 717 1-B4 of the hybrid *Populus tremula* X *P. alba*. This aspect additionally includes a reproductive unit from the transgenic plant.

Another aspect of the invention is a transgenic woody perennial that exhibits a growth rate over the first three months in the greenhouse that is at least 10% greater than that of equivalent untransformed plants. In a preferred embodiment, the plant additionally exhibits a protein concentration (g/gfw) that is at least 10% greater than that of equivalent untransformed plants after the first 3 months in the greenhouse. In a most preferred embodiment, the transgenic plant additionally exhibits a chlorophyll concentration (g/gfw) that is at least 10% greater than that of equivalent untransformed plants after the first 3 months in the greenhouse. In other preferred embodiments, the plant is in the family Salicaceae, in the genus Populus, a hybrid of *Populus tremula* X *P. alba*, and is clone INRA 717 1-B4 of the hybrid *Populus tremula* X *P. alba*. This aspect additionally contains a reproductive unit of the transgenic plant.

Please replace the paragraph begins at page 15, line 37, ends at page 16, line 26 of the specification with the following substitute paragraph:

In another preferred embodiments, the expression cassette contains sequences that are similar to the to the pine GS1 coding sequence. Because each amino acid is encoded by several codons, a protein identical to *Pinus sylvestris* GS1 may be encoded by many different coding sequences. Additionally, proteins have a similar enzymatic function to GS1 and yet have a different amino acid sequence through the substitution of structurally similar amino acids. Therefore coding sequences that are similar yet not identical to *Pinus sylvestris* GS1 are contemplated in regards to the present invention. In a preferred embodiment, the expression vector comprises a nucleic acid sequence is at least 70% identical to Genbank Accession No. X69822 (SEQ ID NO: 3). The nucleic acid sequences are at least 80% identical in a more preferred embodiment, and at least 90% identical in a most preferred embodiment. In another embodiment, the expression cassette contains a coding sequence which encodes a protein that is at least 70% similar to the protein sequence encoded by Genbank Accession No. X69822 (SEQ ID NO: 4). The sequence encodes a amino acid sequence that is at least 80% similar in a more preferred embodiment, and at least 90% similar in a most preferred embodiment. In another embodiment, the expression cassette hybridizes to the nucleic acid in Genbank Accession No. X69822 (SEQ ID NO: 3) under conditions of moderate stringency in a preferred embodiment, high

stringency in a more preferred embodiment, and very high stringency in most preferred embodiment.

Please replace the paragraph begins at page 25, line 15, ends at page 26, line 1 of the specification with the following substitute paragraph:

Gene construction. A chimeric gene composed of the cauliflower mosaic virus (CaMV) 35S promoter fused to the pine cytosolic glutamine synthetase (GS) cDNA (Cantón et al., 1993, Plant Mol Biol 22: 819-828; Genbank Accession No. X69822 (SEQ ID NO: 3)) and nopaline synthetase polyadenylation region (NOS) was used to transform hybrid poplar (Figure 1). The 1.4 kb *EcoRI* insert containing the full-length cytosolic GS cDNA from pGS114 (Cantón et al., 1993, Plant Mol Biol 22: 819-828) was isolated and blunt ended using the Klenow fragment of DNA polymerase I. In parallel, the 1.0 kb *BamHI* fragment containing the neomycin phosphotransferase II (NPTII) gene from pCaMVNEO (Fromm et al., 1986, Nature 319: 791-793) was excised and the digested plasmid was blunt-ended. The 1.4 kb GS cDNA was then ligated into the digested pCaMVNEO to yield p35SGSp. The new plasmid has a 2.1 kb *HindIII* fragment containing the CaMV 35S-GS-NOS construct (Figure 1). The orientation of the GS cDNA was verified by sequencing the junctions. This 2.1 kb *HindIII* construct was then ligated into the *HindIII* site of the *Ti*-derived disarmed binary vector pBin19 (Bevan, 1984, Nucleic Acid Res 12: 8711-8721). The new vector, pBin35SGSp, was transferred into *Agrobacterium tumefaciens* strain LBA4404 by the

freeze-thaw method (Holsters et al., 1978, Mol Gen Genet 163:181-187).